Amendments To Claims

1. (Currently Amended) A method for adapting a Bayesian network, comprising ~~the steps of:~~

determining a learning rate that indicates a relative weight of a set of past observation data and a set of present observation data ~~a set of parameters for the Bayesian network~~;

updating ~~the~~ a set of parameters ~~for~~ of the Bayesian network in response to ~~a set of~~ the present observation data ~~using an adaptive~~ according to the learning rate.

2. (Currently Amended) The method of claim 1, wherein ~~the step of updating the parameters~~ determining a learning rate comprises ~~the steps of~~:

determining an initial value for the ~~adaptive~~ learning rate;

determining an estimate of the parameters in response to the present observation data;

increasing the ~~adaptive~~ learning rate if an error between the estimate and a mean value of the parameters is relatively large.

3. (Currently Amended) The method of claim 1, wherein ~~the step of updating the parameters~~ determining a learning rate comprises ~~the steps of~~:

determining an initial value for the ~~adaptive~~ learning rate;

determining an estimate of the parameters in response to the present observation data;

decreasing the learning rate when convergence is reached between the estimate and a mean value of the parameters.

4. (Currently Amended) The method of claim 1, further comprising ~~the step of~~ obtaining the present observation data from an on-line environment.

5. (Currently Amended) The method of claim 1, wherein ~~the step of~~ obtaining comprises ~~the step of~~ obtaining a subset of values in the present observation data from an on-line environment.

6. (Currently Amended) A system, comprising:

on-line environment that generates a set of present observation data;

Bayesian ~~bayesian~~ network that performs automated reasoning for the on-line environment in response to the present observation data;

on-line adapter that adapts a set of parameters for the Bayesian ~~bayesian~~ network in response to the present observation data according to a learning rate that indicates a relative weight of a set of past observation data and the present observation data.

7. (Currently Amended) The system of claim 6, wherein the on-line adapter adapts the parameters by determining an initial set of the parameters and then updating the parameters in response to the present observation data using ~~an adaptive~~ the learning rate.

8. (Currently Amended) The system of claim 7, wherein the on-line adapter updates the parameters by determining an initial value for the ~~adaptive~~ learning rate and determining an estimate of the parameters in response to the present observation data and then increasing the ~~adaptive~~ learning rate if an error between the estimate and a mean value of the parameters is relatively large.

9. (Currently Amended) The system of claim 7, wherein the on-line adapter updates the parameters by determining an initial value for the ~~adaptive~~ learning rate and determining

an estimate of the parameters in response to the present observation data and then decreasing the learning rate when convergence is reached between the estimate and a mean value of the parameters.

10. (Currently Amended) The system of claim 6, wherein the on-line adapter obtains a subset of values in the present observation data from an on-line environment.